

SEQUENCE LISTING

<110> Oft, Martin
McClanahan, Terrill K.

<120> USES OF IL-23 AGONISTS AND ANTAGONISTS; RELATED REAGENTS

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<150> U.S. 60/453,672

<151> 2003-03-10

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<170> PatentIn version 3.2

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Ala	Gln	Gly	Arg	Ala	Val	Pro	Gly	Gly	Ser	Ser	Pro	Ala	Trp	Thr	Gln	
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tgc	cag	cag	ctt	tca	cag	aag	ctc	tgc	aca	ctg	gcc	tgg	agt	gca	cat	144
Cys	Gln	Gln	Leu	Ser	Gln	Lys	Leu	Cys	Thr	Leu	Ala	Trp	Ser	Ala	His	
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cca	cta	gtg	gga	cac	atg	gat	cta	aga	gaa	gag	gga	gat	gaa	gag	act	192
Pro	Leu	Val	Gly	His	Met	Asp	Leu	Arg	Glu	Glu	Gly	Asp	Glu	Glu	Thr	
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Thr	Asn	Asp	Val	Pro	His	Ile	Gln	Cys	Gly	Asp	Gly	Cys	Asp	Pro	Gln	
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gga	ctc	agg	gac	aac	agt	cag	ttc	tgc	ttg	caa	agg	atc	cac	cag	ggc	288
Gly	Leu	Arg	Asp	Asn	Ser	Gln	Phe	Cys	Leu	Arg	Ile	His	Gln	Gly		
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ctg	att	ttt	tat	gag	aag	ctg	cta	gga	tcg	gat	att	ttc	aca	ggg	gag	336
Leu	Ile	Phe	Tyr	Glu	Lys	Leu	Leu	Gly	Ser	Asp	Ile	Phe	Thr	Gly	Glu	
			80					85						90		

cct	tct	ctg	ctc	cct	gat	agc	cct	gtg	gcg	cag	ctt	cat	gcc	tcc	cta	384
Pro	Ser	Leu	Leu	Pro	Asp	Ser	Pro	Val	Ala	Gln	Leu	His	Ala	Ser	Leu	
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ctg ggc ctc agc caa ctc ctg cag cct gag ggt cac cac tgg gag act 432
 Leu Gly Leu Ser Gln Leu Leu Gln Pro Glu Gly His His Trp Glu Thr
 110 115 120

cag cag att cca agc ctc agt ccc agc cag cca tgg cag cgt ctc ctt 480
 Gln Gln Ile Pro Ser Leu Ser Pro Ser Gln Pro Trp Gln Arg Leu Leu
 125 130 135

ctc cgc ttc aaa atc ctt cgc agc ctc cag gcc ttt gtg gct gta gcc 528
 Leu Arg Phe Lys Ile Leu Arg Ser Leu Gln Ala Phe Val Ala Val Ala
 140 145 150 155

gcc cgg gtc ttt gcc cat gga gca gca acc ctg agt ccc taa 570
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Cys Gln Gln Leu Ser Gln Lys Leu Cys Thr Leu Ala Trp Ser Ala His
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Pro Leu Val Gly His Met Asp Leu Arg Glu Glu Gly Asp Glu Glu Thr
 30 35 40

Thr Asn Asp Val Pro His Ile Gln Cys Gly Asp Gly Cys Asp Pro Gln
 45 50 55

Gly Leu Arg Asp Asn Ser Gln Phe Cys Leu Gln Arg Ile His Gln Gly
 60 65 70 75

Leu Ile Phe Tyr Glu Lys Leu Leu Gly Ser Asp Ile Phe Thr Gly Glu
 80 85 90

Pro Ser Leu Leu Pro Asp Ser Pro Val Ala Gln Leu His Ala Ser Leu
 95 100 105

Leu Gly Leu Ser Gln Leu Leu Gln Pro Glu Gly His His Trp Glu Thr
 110 115 120

Gln Gln Ile Pro Ser Leu Ser Pro Ser Gln Pro Trp Gln Arg Leu Leu

125

130

135

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 Met Leu
 -20
 gat tgc aga gca gta ata atg cta tgg ctg ttg ccc tgg gtc act cag 166
 Asp Cys Arg Ala Val Ile Met Leu Trp Leu Leu Pro Trp Val Thr Gln
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 Gly Leu Ala Val Pro Arg Ser Ser Ser Pro Asp Trp Ala Gln Cys Gln
 -1 1 5 10
 cag ctc tct cgg aat ctc tgc atg cta gcc tgg aac gca cat gca cca 262
 Gln Leu Ser Arg Asn Leu Cys Met Leu Ala Trp Asn Ala His Ala Pro
 15 20 25
 gcg gga cat atg aat cta cta aga gaa gaa gag gat gaa gag act aaa 310
 Ala Gly His Met Asn Leu Leu Arg Glu Glu Glu Asp Glu Glu Thr Lys
 30 35 40 45
 aat aat gtg ccc cgt atc cag tgt gaa gat ggt tgt gac cca caa gga 358
 Asn Asn Val Pro Arg Ile Gln Cys Glu Asp Gly Cys Asp Pro Gln Gly
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 Leu Lys Asp Asn Ser Gln Phe Cys Leu Gln Arg Ile Arg Gln Gly Leu
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 gct ttt tat aag cac ctg ctt gac tct gac atc ttc aaa ggg gag cct 454
 Ala Phe Tyr Lys His Leu Leu Asp Ser Asp Ile Phe Lys Gly Glu Pro
 80 85 90
 gct cta ctc cct gat agc ccc atg gag caa ctt cac acc tcc cta cta 502
 Ala Leu Leu Pro Asp Ser Pro Met Glu Gln Leu His Thr Ser Leu Leu

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Gly Leu Ser Gln Leu Leu Gln Pro Glu Asp His Pro Arg Glu Thr Gln			
110	115	120	125
cag atg ccc agc ctg agt tct agt cag cag tgg cag cgc ccc ctt ctc			598
Gln Met Pro Ser Leu Ser Ser Ser Gln Gln Trp Gln Arg Pro Leu Leu			
	130	135	140
cgt tcc aag atc ctt cga agc ctc cag gcc ttt ttg gcc ata gct gcc			646
Arg Ser Lys Ile Leu Arg Ser Leu Gln Ala Phe Leu Ala Ile Ala Ala			
	145	150	155
cgg gtc ttt gcc cac gga gca gca act ctg act gag ccc tta gtg cca			694
Arg Val Phe Ala His Gly Ala Ala Thr Leu Thr Glu Pro Leu Val Pro			
	160	165	170
aca gct taaggatgcc caggttccca tggctaccat gataagacta atctatcagc			750
Thr Ala			
, 175			
ccagacatct accagttaat taaccatta ggacttgtagc tgttcttggt tcgtttgttt			810
tgcgtagaagg gcaaggacac cattattaaa gagaaaagaa acaaaccacca gagcaggcag			870
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accagagca tcagaaaaag tgagcccagg ctttggccat tatctgtaag aaaaacaaga			1050
aaaggggaac attatacttt cctgggtggc tcagggaaat gtgcagatgc acagtactcc			1110
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Cys Gln Gln Leu Ser Arg Asn Leu Cys Met Leu Ala Trp Asn Ala His
15 20 25

Ala Pro Ala Gly His Met Asn Leu Leu Arg Glu Glu Glu Asp Glu Glu
30 35 40

Thr Lys Asn Asn Val Pro Arg Ile Gln Cys Glu Asp Gly Cys Asp Pro
 45 50 55

Gln Gly Leu Lys Asp Asn Ser Gln Phe Cys Leu Gln Arg Ile Arg Gln
 60 65 70 75

Gly Leu Ala Phe Tyr Lys His Leu Leu Asp Ser Asp Ile Phe Lys Gly
 80 85 90

Glu Pro Ala Leu Leu Pro Asp Ser Pro Met Glu Gln Leu His Thr Ser
 95 100 105

Leu Leu Gly Leu Ser Gln Leu Leu Gln Pro Glu Asp His Pro Arg Glu
 110 115 120

Thr Gln Gln Met Pro Ser Leu Ser Ser Ser Gln Gln Trp Gln Arg Pro
 125 130 135

Leu Leu Arg Ser Lys Ile Leu Arg Ser Leu Gln Ala Phe Leu Ala Ile
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Val Pro Thr Ala
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 atg aat cak gtc act att caa tgg gat gca gta ata gcc ctt tac ata 166
 Met Asn Xaa Val Thr Ile Gln Trp Asp Ala Val Ile Ala Leu Tyr Ile
 -20 -15 -10
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 Leu Phe Ser Trp Cys His Gly Gly Ile Thr Asn Ile Asn Cys Ser Gly
 -5 -1 1 5

cac atc tgg gta gaa cca gcc aca att ttt aag atg ggt atg aat atc	262
His Ile Trp Val Glu Pro Ala Thr Ile Phe Lys Met Gly Met Asn Ile	
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tct ata tat tgc caa gca gca att aag aac tgc caa cca agg aaa ctt	310
Ser Ile Tyr Cys Gln Ala Ala Ile Lys Asn Cys Gln Pro Arg Lys Leu	
30 35 40	
cat ttt tat aaa aat ggc atc aaa gaa aga ttt caa atc aca agg att	358
His Phe Tyr Lys Asn Gly Ile Lys Glu Arg Phe Gln Ile Thr Arg Ile	
45 50 55	
aat aaa aca aca gct cgg ctt tgg tat aaa aac ttt ctg gaa cca cat	406
Asn Lys Thr Thr Ala Arg Leu Trp Tyr Lys Asn Phe Leu Glu Pro His	
60 65 70	
gct tct atg tac tgc act gct gaa tgt ccc aaa cat ttt caa gag aca	454
Ala Ser Met Tyr Cys Thr Ala Glu Cys Pro Lys His Phe Gln Glu Thr	
75 80 85	
ctg ata tgt gga aaa gac att tct tct gga tat ccg cca gat att cct	502
Leu Ile Cys Gly Lys Asp Ile Ser Ser Gly Tyr Pro Pro Asp Ile Pro	
90 95 100 105	
gat gaa gta acc tgt gtc att tat gaa tat tca ggc aac atg act tgc	550
Asp Glu Val Thr Cys Val Ile Tyr Glu Tyr Ser Gly Asn Met Thr Cys	
110 115 120	
acc tgg aat gct rgg aag ctc acc tac ata gac aca aaa tac gtg gta	598
Thr Trp Asn Ala Xaa Lys Leu Thr Tyr Ile Asp Thr Lys Tyr Val Val	
125 130 135	
cat gtg aag agt tta gag aca gaa gaa gag caa cag tat ctc acc tca	646
His Val Lys Ser Leu Glu Thr Glu Glu Glu Gln Gln Tyr Leu Thr Ser	
140 145 150	
agc tat att aac atc tcc act gat tca tta caa ggt ggc aag aag tac	694
Ser Tyr Ile Asn Ile Ser Thr Asp Ser Leu Gln Gly Gly Lys Lys Tyr	
155 160 165	
ttg gtt tgg gtc caa gca gca aac gca cta ggc atg gaa gag tca aaa	742
Leu Val Trp Val Gln Ala Ala Asn Ala Leu Gly Met Glu Glu Ser Lys	
170 175 180 185	
caa ctg caa att cac ctg gat gat ata gtg ata cct tct gca gcc gtc	790
Gln Leu Gln Ile His Leu Asp Asp Ile Val Ile Pro Ser Ala Ala Val	
190 195 200	
att tcc agg gct gag act ata aat gct aca gtg ccc aag acc ata att	838
Ile Ser Arg Ala Glu Thr Ile Asn Ala Thr Val Pro Lys Thr Ile Ile	
205 210 215	
tat tgg gat agt caa aca aca att gaa aag gtt tcc tgt gaa atg aga	886
Tyr Trp Asp Ser Gln Thr Thr Ile Glu Lys Val Ser Cys Glu Met Arg	
220 225 230	
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Tyr Lys Ala Thr Thr Asn Gln Thr Trp Asn Val Lys Glu Phe Asp Thr	
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aat ttt aca tat gtg caa cag tca gaa ttc tac ttg gag cca aac att	982

Asn 250	Phe	Thr	Tyr	Val	Gln 255	Gln	Ser	Glu	Phe	Tyr 260	Leu	Glu	Pro	Asn	Ile 265	
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cag Gln	cct Pro	tgg Trp	agt Ser	tca Ser	ccg Pro	ttt Phe	ttt Phe	cat His	aaa Lys	aca Thr	cct Pro	gaa Glu	aca Thr	gtt Val	ccc Pro	1078
cag Gln	gtc Val	aca Thr	tca Ser	aaa Lys	gca Ala	ttc Phe	caa Gln	cat His	gac Asp	aca Thr	tgg Trp	aat Asn	tct Ser	ggg Gly	cta Leu	1126
aca Thr	gtt Val	gct Ala	tcc Ser	atc Ile	tct Ser	aca Thr	ggg Gly	cac His	ctt Leu	act Thr	tct Ser	gac Asp	aac Asn	aga Arg	gga Gly	1174
gac Asp	att Ile	gga Gly	ctt Leu	tta Leu	ttg Leu	gga Gly	atg Met	atc Ile	gtc Val	ttt Phe	gct Ala	gtt Val	atg Met	ttg Leu	tca Ser	1222
att Ile	ctt Leu	tct Ser	ttg Leu	att Ile	ggg Gly	ata Ile	ttt Phe	aac Asn	aga Arg	tca Ser	ttc Phe	cga Arg	act Thr	ggg Gly	att Ile	1270
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cct Pro	aat Asn	atg Met	aaa Lys	aac Asn	agc Ser	aat Asn	gtt Val	gtg Val	aaa Lys	atg Met	cta Leu	cag Gln	gaa Glu	aat Asn	agt Ser	1366
gaa Glu	ctt Leu	atg Met	aat Asn	aat Asn	aat Asn	tcc Ser	agt Ser	gag Glu	cag Gln	gtc Val	cta Leu	tat Tyr	gtt Val	gat Asp	ccc Pro	1414
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gac Asp	tac Tyr	aag Lys	aag Lys	gag Glu	aat Asn	aca Thr	gga Gly	ccc Pro	ctg Leu	gag Glu	aca Thr	aga Arg	gac Asp	tac Tyr	ccg Pro	1510
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gtt Val	gat Asp	tcc Ser	tta Leu	gac Asp	tca Ser	gga Gly	aat Asn	aat Asn	ccc Pro	agg Arg	tta Leu	caa Gln	aag Lys	cat His	cct Pro	1702

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525 530 535	
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Pro Asp Ile Gln Asn Ser Val Glu Glu Glu Thr Thr Met Leu Leu Glu	
540 545 550	
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Glu Phe Val Ser Cys Leu Gly Ile Val Asn Glu Glu Leu Pro Ser Ile	
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Asn Thr Tyr Phe Pro Gln Asn Ile Leu Glu Ser His Phe Asn Arg Ile	
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<223> The 'Xaa' at location -21 stands for Gln, or His.

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<223> The 'Xaa' at location 126 stands for Gly, or Arg.

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His Ile Trp Val Glu Pro Ala Thr Ile Phe Lys Met Gly Met Asn Ile
10                      15                      20                      25

Ser Ile Tyr Cys Gln Ala Ala Ile Lys Asn Cys Gln Pro Arg Lys Leu
      30                      35                      40

His Phe Tyr Lys Asn Gly Ile Lys Glu Arg Phe Gln Ile Thr Arg Ile
      45                      50                      55

Asn Lys Thr Thr Ala Arg Leu Trp Tyr Lys Asn Phe Leu Glu Pro His
      60                      65                      70

Ala Ser Met Tyr Cys Thr Ala Glu Cys Pro Lys His Phe Gln Glu Thr
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Leu Ile Cys Gly Lys Asp Ile Ser Ser Gly Tyr Pro Pro Asp Ile Pro
90                      95                      100                      105

Asp Glu Val Thr Cys Val Ile Tyr Glu Tyr Ser Gly Asn Met Thr Cys
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Thr Trp Asn Ala Xaa Lys Leu Thr Tyr Ile Asp Thr Lys Tyr Val Val
      125                      130                      135

His Val Lys Ser Leu Glu Thr Glu Glu Glu Gln Gln Tyr Leu Thr Ser
      140                      145                      150

Ser Tyr Ile Asn Ile Ser Thr Asp Ser Leu Gln Gly Gly Lys Lys Tyr
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Leu Val Trp Val Gln Ala Ala Asn Ala Leu Gly Met Glu Glu Ser Ly

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Asn	Phe	Thr	Tyr	Val	Gln	Gln	Ser	Glu	Phe	Tyr	Leu	Glu	Pro	Asn	Ile
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Lys	Tyr	Val	Phe	Gln	Val	Arg	Cys	Gln	Glu	Thr	Gly	Lys	Arg	Tyr	Trp
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Gln	Pro	Trp	Ser	Ser	Pro	Phe	Phe	His	Lys	Thr	Pro	Glu	Thr	Val	Pro
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Thr	Val	Ala	Ser	Ile	Ser	Thr	Gly	His	Leu	Thr	Ser	Asp	Asn	Arg	Gly
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Asp	Ile	Gly	Leu	Leu	Leu	Gly	Met	Ile	Val	Phe	Ala	Val	Met	Leu	Ser
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Ile	Leu	Ser	Leu	Ile	Gly	Ile	Phe	Asn	Arg	Ser	Phe	Arg	Thr	Gly	Ile
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Lys	Arg	Arg	Ile	Leu	Leu	Leu	Ile	Pro	Lys	Trp	Leu	Tyr	Glu	Asp	Ile
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Pro	Asn	Met	Lys	Asn	Ser	Asn	Val	Val	Lys	Met	Leu	Gln	Glu	Asn	Ser
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Glu	Leu	Met	Asn	Asn	Asn	Ser	Ser	Glu	Gln	Val	Leu	Tyr	Val	Asp	Pro
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Asp Tyr Lys Lys Glu Asn Thr Gly Pro Leu Glu Thr Arg Asp Tyr Pro
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Gln Asn Ser Leu Phe Asp Asn Thr Thr Val Val Tyr Ile Pro Asp Leu
445 450 455

Asn Thr Gly Tyr Lys Pro Gln Ile Ser Asn Phe Leu Pro Glu Gly Ser
460 465 470

His Leu Ser Asn Asn Asn Glu Ile Thr Ser Leu Thr Leu Lys Pro Pro
475 480 485

Val Asp Ser Leu Asp Ser Gly Asn Asn Pro Arg Leu Gln Lys His Pro
490 495 500 505

Asn Phe Ala Phe Ser Val Ser Ser Val Asn Ser Leu Ser Asn Thr Ile
510 515 520

Phe Leu Gly Glu Leu Ser Leu Ile Leu Asn Gln Gly Glu Cys Ser Ser
525 530 535

Pro Asp Ile Gln Asn Ser Val Glu Glu Glu Thr Thr Met Leu Leu Glu
540 545 550

Asn Asp Ser Pro Ser Glu Thr Ile Pro Glu Gln Thr Leu Leu Pro Asp
555 560 565

Glu Phe Val Ser Cys Leu Gly Ile Val Asn Glu Glu Leu Pro Ser Ile
570 575 580 585

Asn Thr Tyr Phe Pro Gln Asn Ile Leu Glu Ser His Phe Asn Arg Ile
590 595 600

Ser Leu Leu Glu Lys
605

<210> 7
<211> 862
<212> PRT
<213> Homo sapiens

<400> 7

Met Ala His Thr Phe Arg Gly Cys Ser Leu Ala Phe Met Phe Ile Ile
1 5 10 15

Thr Trp Leu Leu Ile Lys Ala Lys Ile Asp Ala Cys Lys Arg Gly Asp
20 25 30

Val Thr Val Lys Pro Ser His Val Ile Leu Leu Gly Ser Thr Val Asn
35 40 45

Ile Thr Cys Ser Leu Lys Pro Arg Gln Gly Cys Phe His Tyr Ser Arg
50 55 60

Arg Asn Lys Leu Ile Leu Tyr Lys Phe Asp Arg Arg Ile Asn Phe His
65 70 75 80

His Gly His Ser Leu Asn Ser Gln Val Thr Gly Leu Pro Leu Gly Thr
85 90 95

Thr Leu Phe Val Cys Lys Leu Ala Cys Ile Asn Ser Asp Glu Ile Gln
100 105 110

Ile Cys Gly Ala Glu Ile Phe Val Gly Val Ala Pro Glu Gln Pro Gln
115 120 125

Asn Leu Ser Cys Ile Gln Lys Gly Glu Gln Gly Thr Val Ala Cys Thr
130 135 140

Trp Glu Arg Gly Arg Asp Thr His Leu Tyr Thr Glu Tyr Thr Leu Gln
145 150 155 160

Leu Ser Gly Pro Lys Asn Leu Thr Trp Gln Lys Gln Cys Lys Asp Ile
165 170 175

Tyr Cys Asp Tyr Leu Asp Phe Gly Ile Asn Leu Thr Pro Glu Ser Pro
180 185 190

Glu Ser Asn Phe Thr Ala Lys Val Thr Ala Val Asn Ser Leu Gly Ser
195 200 205

Ser Ser Ser Leu Pro Ser Thr Phe Thr Phe Leu Asp Ile Val Arg Pro
210 215 220

Leu Pro Pro Trp Asp Ile Arg Ile Lys Phe Gln Lys Ala Ser Val Ser
225 230 235 240

Arg Cys Thr Leu Tyr Trp Arg Asp Glu Gly Leu Val Leu Leu Asn Arg
245 250 255

Leu Arg Tyr Arg Pro Ser Asn Ser Arg Leu Trp Asn Met Val Asn Val
260 265 270

Thr Lys Ala Lys Gly Arg His Asp Leu Leu Asp Leu Lys Pro Phe Thr
275 280 285

Glu Tyr Glu Phe Gln Ile Ser Ser Lys Leu His Leu Tyr Lys Gly Ser
290 295 300

Trp Ser Asp Trp Ser Glu Ser Leu Arg Ala Gln Thr Pro Glu Glu Glu
305 310 315 320

Pro Thr Gly Met Leu Asp Val Trp Tyr Met Lys Arg His Ile Asp Tyr
325 330 335

Ser Arg Gln Gln Ile Ser Leu Phe Trp Lys Asn Leu Ser Val Ser Glu
340 345 350

Ala Arg Gly Lys Ile Leu His Tyr Gln Val Thr Leu Gln Glu Leu Thr
355 360 365

Gly Gly Lys Ala Met Thr Gln Asn Ile Thr Gly His Thr Ser Trp Thr
370 375 380

Thr Val Ile Pro Arg Thr Gly Asn Trp Ala Val Ala Val Ser Ala Ala
385 390 395 400

Asn Ser Lys Gly Ser Ser Leu Pro Thr Arg Ile Asn Ile Met Asn Leu
405 410 415

Cys Glu Ala Gly Leu Leu Ala Pro Arg Gln Val Ser Ala Asn Ser Glu
420 425 430

Gly Met Asp Asn Ile Leu Val Thr Trp Gln Pro Pro Arg Lys Asp Pro
435 440 445

Ser Ala Val Gln Glu Tyr Val Val Glu Trp Arg Glu Leu His Pro Gly
450 455 460

Gly Asp Thr Gln Val Pro Leu Asn Trp Leu Arg Ser Arg Pro Tyr Asn
465 470 475 480

Val Ser Ala Leu Ile Ser Glu Asn Ile Lys Ser Tyr Ile Cys Tyr Glu
485 490 495

Ile Arg Val Tyr Ala Leu Ser Gly Asp Gln Gly Gly Cys Ser Ser Ile
500 505 510

Leu Gly Asn Ser Lys His Lys Ala Pro Leu Ser Gly Pro His Ile Asn
515 520 525

Ala Ile Thr Glu Glu Lys Gly Ser Ile Leu Ile Ser Trp Asn Ser Ile
530 535 540

Pro Val Gln Glu Gln Met Gly Cys Leu Leu His Tyr Arg Ile Tyr Trp
545 550 555 560

Lys Glu Arg Asp Ser Asn Ser Gln Pro Gln Leu Cys Glu Ile Pro Tyr
565 570 575

Arg Val Ser Gln Asn Ser His Pro Ile Asn Ser Leu Gln Pro Arg Val
580 585 590

Thr Tyr Val Leu Trp Met Thr Ala Leu Thr Ala Ala Gly Glu Ser Ser
595 600 605

His Gly Asn Glu Arg Glu Phe Cys Leu Gln Gly Lys Ala Asn Trp Met
610 615 620

Ala Phe Val Ala Pro Ser Ile Cys Ile Ala Ile Ile Met Val Gly Ile
625 630 635 640

Phe Ser Thr His Tyr Phe Gln Gln Lys Val Phe Val Leu Leu Ala Ala
645 650 655

Leu Arg Pro Gln Trp Cys Ser Arg Glu Ile Pro Asp Pro Ala Asn Ser
660 665 670

Thr Cys Ala Lys Lys Tyr Pro Ile Ala Glu Glu Lys Thr Gln Leu Pro
675 680 685

Leu Asp Arg Leu Leu Ile Asp Trp Pro Thr Pro Glu Asp Pro Glu Pro
690 695 700

Leu Val Ile Ser Glu Val Leu His Gln Val Thr Pro Val Phe Arg His
705 710 715 720

Pro Pro Cys Ser Asn Trp Pro Gln Arg Glu Lys Gly Ile Gln Gly His
725 730 735

Gln Ala Ser Glu Lys Asp Met Met His Ser Ala Ser Ser Pro Pro Pro
740 745 750

Pro Arg Ala Leu Gln Ala Glu Ser Arg Gln Leu Val Asp Leu Tyr Lys
755 760 765

Val Leu Glu Ser Arg Gly Ser Asp Pro Lys Pro Glu Asn Pro Ala Cys
770 775 780

Pro Trp Thr Val Leu Pro Ala Gly Asp Leu Pro Thr His Asp Gly Tyr
785 790 795 800

Leu Pro Ser Asn Ile Asp Asp Leu Pro Ser His Glu Ala Pro Leu Ala
805 810 815

Asp Ser Leu Glu Glu Leu Glu Pro Gln His Ile Ser Leu Ser Val Phe
820 825 830

Pro Ser Ser Ser Leu His Pro Leu Thr Phe Ser Cys Gly Asp Lys Leu
835 840 845

Thr Leu Asp Gln Leu Lys Met Arg Cys Asp Ser Leu Met Leu
850 855 860

<210> 8
<211> 328
<212> PRT
<213> Homo sapiens

<400> 8

Met Cys His Gln Gln Leu Val Ile Ser Trp Phe Ser Leu Val Phe Leu
1 5 10 15

Ala Ser Pro Leu Val Ala Ile Trp Glu Leu Lys Lys Asp Val Tyr Val
20 25 30

Val Glu Leu Asp Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu
35 40 45

Thr Cys Asp Thr Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln
50 55 60

Ser Ser Glu Val Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys
65 70 75 80

Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val
85 90 95

Leu Ser His Ser Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp
100 105 110

Ser Thr Asp Ile Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe
115 120 125

Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp
130 135 140

Leu Thr Thr Ile Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg
145 150 155 160

Gly Ser Ser Asp Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser
165 170 175

Ala Glu Arg Val Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu
180 185 190

Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile
195 200 205

Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr
210 215 220

Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn
225 230 235 240

Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp
245 250 255

Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr
260 265 270

Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg
275 280 285

Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala
290 295 300

Ser Ile Ser Val Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser
305 310 315 320

Glu Trp Ala Ser Val Pro Cys Ser
325

<210> 9
<211> 335
<212> PRT
<213> Mus musculus

<400> 9

Met Cys Pro Gln Lys Leu Thr Ile Ser Trp Phe Ala Ile Val Leu Leu
1 5 10 15

Val	Ser	Pro	Leu	Met	Ala	Met	Trp	Glu	Leu	Glu	Lys	Asp	Val	Tyr	Val			
			20					25					30					
Val	Glu	Val	Asp	Trp	Thr	Pro	Asp	Ala	Pro	Gly	Glu	Thr	Val	Asn	Leu			
		35					40					45						
Thr	Cys	Asp	Thr	Pro	Glu	Glu	Asp	Asp	Ile	Thr	Trp	Thr	Ser	Asp	Gln			
	50					55					60							
Arg	His	Gly	Val	Ile	Gly	Ser	Gly	Lys	Thr	Leu	Thr	Ile	Thr	Val	Lys			
65					70					75					80			
Glu	Phe	Leu	Asp	Ala	Gly	Gln	Tyr	Thr	Cys	His	Lys	Gly	Gly	Glu	Thr			
				85					90					95				
Leu	Ser	His	Ser	His	Leu	Leu	Leu	His	Lys	Lys	Glu	Asn	Gly	Ile	Trp			
			100					105					110					
Ser	Thr	Glu	Ile	Leu	Lys	Asn	Phe	Lys	Asn	Lys	Thr	Phe	Leu	Lys	Cys			
		115					120					125						
Glu	Ala	Pro	Asn	Tyr	Ser	Gly	Arg	Phe	Thr	Cys	Ser	Trp	Leu	Val	Gln			
	130					135					140							
Arg	Asn	Met	Asp	Leu	Lys	Phe	Asn	Ile	Lys	Ser	Ser	Ser	Ser	Ser	Pro			
145					150					155					160			
Asp	Ser	Arg	Ala	Val	Thr	Cys	Gly	Met	Ala	Ser	Leu	Ser	Ala	Glu	Lys			
				165					170					175				
Val	Thr	Leu	Asp	Gln	Arg	Asp	Tyr	Glu	Lys	Tyr	Ser	Val	Ser	Cys	Gln			
			180					185					190					
Glu	Asp	Val	Thr	Cys	Pro	Thr	Ala	Glu	Glu	Thr	Leu	Pro	Ile	Glu	Leu			
		195					200					205						
Ala	Leu	Glu	Ala	Arg	Gln	Gln	Asn	Lys	Tyr	Glu	Asn	Tyr	Ser	Thr	Ser			
	210					215					220							
Phe	Phe	Ile	Arg	Asp	Ile	Ile	Lys	Pro	Asp	Pro	Pro	Lys	Asn	Leu	Gln			
225					230					235				240				
Met	Lys	Pro	Leu	Lys	Asn	Ser	Gln	Val	Glu	Val	Ser	Trp	Glu	Tyr	Pro			
				245					250					255				

Asp Ser Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Lys Phe Phe Val
260 265 270

Arg Ile Gln Arg Lys Lys Glu Lys Met Lys Glu Thr Glu Glu Gly Cys
275 280 285

Asn Gln Lys Gly Ala Phe Leu Val Glu Lys Thr Ser Thr Glu Val Gln
290 295 300

Cys Lys Gly Gly Asn Val Cys Val Gln Ala Gln Asp Arg Tyr Tyr Asn
305 310 315 320

Ser Ser Cys Ser Lys Trp Ala Cys Val Pro Cys Arg Val Arg Ser
325 330 335

<210> 10
<211> 531
<212> PRT
<213> Mus musculus

<400> 10

Met Ser Ala Leu Leu Ile Leu Ala Leu Val Gly Ala Ala Val Ala Asp
1 5 10 15

Tyr Lys Asp Asp Asp Asp Lys Leu Met Trp Glu Leu Glu Lys Asp Val
20 25 30

Tyr Val Val Glu Val Asp Trp Thr Pro Asp Ala Pro Gly Glu Thr Val
35 40 45

Asn Leu Thr Cys Asp Thr Pro Glu Glu Asp Asp Ile Thr Trp Thr Ser
50 55 60

Asp Gln Arg His Gly Val Ile Gly Ser Gly Lys Thr Leu Thr Ile Thr
65 70 75 80

Val Lys Glu Phe Leu Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly
85 90 95

Glu Thr Leu Ser His Ser His Leu Leu Leu His Lys Lys Glu Asn Gly
100 105 110

Ile Trp Ser Thr Glu Ile Leu Lys Asn Phe Lys Asn Lys Thr Phe Leu
115 120 125

Lys Cys Glu Ala Pro Asn Tyr Ser Gly Arg Phe Thr Cys Ser Trp Leu
130 135 140

Val Gln Arg Asn Met Asp Leu Lys Phe Asn Ile Lys Ser Ser Ser Ser
145 150 155 160

Ser Pro Asp Ser Arg Ala Val Thr Cys Gly Met Ala Ser Leu Ser Ala
165 170 175

Glu Lys Val Thr Leu Asp Gln Arg Asp Tyr Glu Lys Tyr Ser Val Ser
180 185 190

Cys Gln Glu Asp Val Thr Cys Pro Thr Ala Glu Glu Thr Leu Pro Ile
195 200 205

Glu Leu Ala Leu Glu Ala Arg Gln Gln Asn Lys Tyr Glu Asn Tyr Ser
210 215 220

Thr Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn
225 230 235 240

Leu Gln Met Lys Pro Leu Lys Asn Ser Gln Val Glu Val Ser Trp Glu
245 250 255

Tyr Pro Asp Ser Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Lys Phe
260 265 270

Phe Val Arg Ile Gln Arg Lys Lys Glu Lys Met Lys Glu Thr Glu Glu
275 280 285

Gly Cys Asn Gln Lys Gly Ala Phe Leu Val Glu Lys Thr Ser Thr Glu
290 295 300

Val Gln Cys Lys Gly Gly Asn Val Cys Val Gln Ala Gln Asp Arg Tyr
305 310 315 320

Tyr Asn Ser Ser Cys Ser Lys Trp Ala Cys Val Pro Cys Arg Val Arg
325 330 335

Ser Ser Arg Gly Gly Ser Gly Ser Gly Gly Ser Gly Gly Gly Gly Ser
340 345 350

Lys Leu Leu Ala Val Pro Arg Ser Ser Ser Pro Asp Trp Ala Gln Cys
355 360 365

Gln Gln Leu Ser Arg Asn Leu Cys Met Leu Ala Trp Asn Ala His Ala
370 375 380

Pro Ala Gly His Met Asn Leu Leu Arg Glu Glu Glu Asp Glu Glu Thr

385					390					395					400	
Lys	Asn	Asn	Val	Pro 405	Arg	Ile	Gln	Cys	Glu 410	Asp	Gly	Cys	Asp	Pro 415	Gln	
Gly	Leu	Lys	Asp 420	Asn	Ser	Gln	Phe	Cys 425	Leu	Gln	Arg	Ile	Arg 430	Gln	Gly	
Leu	Val	Phe 435	Tyr	Lys	His	Leu	Leu 440	Asp	Ser	Asp	Ile	Phe 445	Lys	Gly	Glu	
Pro	Ala 450	Leu	Leu	Pro	Asp	Ser 455	Pro	Met	Glu	Gln	Leu 460	His	Thr	Ser	Leu	
Leu 465	Gly	Leu	Ser	Gln	Leu 470	Leu	Gln	Pro	Glu	Asp 475	His	Pro	Arg	Glu	Thr 480	
Gln	Gln	Met	Pro	Ser 485	Leu	Ser	Ser	Ser	Gln 490	Gln	Trp	Gln	Arg	Pro 495	Leu	
Leu	Arg	Ser	Lys 500	Ile	Leu	Arg	Ser	Leu 505	Gln	Ala	Phe	Leu	Ala 510	Ile	Ala	
Ala	Arg	Val 515	Phe	Ala	His	Gly	Ala 520	Ala	Thr	Leu	Thr	Glu 525	Pro	Leu	Val	
Pro	Thr 530	Ala														
<210>	11															
<211>	521															
<212>	PRT															
<213>	Homo sapiens															
<400>	11															
Met 1	Ser	Ala	Leu	Leu 5	Ile	Leu	Ala	Leu	Val 10	Gly	Ala	Ala	Val	Ala 15	Asp	
Tyr	Lys	Asp	Asp 20	Asp	Asp	Lys	Leu	Ile 25	Trp	Glu	Leu	Lys	Lys 30	Asp	Val	
Tyr	Val	Val 35	Glu	Leu	Asp	Trp	Tyr 40	Pro	Asp	Ala	Pro	Gly 45	Glu	Met	Val	
Val	Leu 50	Thr	Cys	Asp	Thr	Pro 55	Glu	Glu	Asp	Gly	Ile 60	Thr	Trp	Thr	Leu	

Asp Gln Ser Ser Glu Val Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln
65 70 75 80

Val Lys Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly
85 90 95

Glu Val Leu Ser His Ser Leu Leu Leu Leu His Lys Lys Glu Asp Gly
100 105 110

Ile Trp Ser Thr Asp Ile Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys
115 120 125

Thr Phe Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys
130 135 140

Trp Trp Leu Thr Thr Ile Ser Thr Asp Leu Thr Phe Ser Val Lys Ser
145 150 155 160

Ser Arg Gly Ser Ser Asp Pro Gln Gly Val Thr Cys Gly Ala Ala Thr
165 170 175

Leu Ser Ala Glu Arg Val Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser
180 185 190

Val Glu Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu
195 200 205

Pro Ile Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn
210 215 220

Tyr Thr Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro
225 230 235 240

Asn Asn Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val
245 250 255

Ser Trp Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser
260 265 270

Leu Thr Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys
275 280 285

Asp Arg Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys
290 295 300

Asn Ala Ser Ile Ser Val Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser
305 310 315 320

Trp Ser Glu Trp Ala Ser Val Pro Cys Ser Gly Ser Gly Ser Ser Arg
325 330 335

Gly Gly Ser Gly Ser Gly Gly Ser Gly Gly Gly Gly Ser Lys Leu Arg
340 345 350

Ala Val Pro Gly Gly Ser Ser Pro Ala Trp Thr Gln Cys Gln Gln Leu
355 360 365

Ser Gln Lys Leu Cys Thr Leu Ala Trp Ser Ala His Pro Leu Val Gly
370 375 380

His Met Asp Leu Arg Glu Glu Gly Asp Glu Glu Thr Thr Asn Asp Val
385 390 395 400

Pro His Ile Gln Cys Gly Asp Gly Cys Asp Pro Gln Gly Leu Arg Asp
405 410 415

Asn Ser Gln Phe Cys Leu Gln Arg Ile His Gln Gly Leu Ile Phe Tyr
420 425 430

Glu Lys Leu Leu Gly Ser Asp Ile Phe Thr Gly Glu Pro Ser Leu Leu
435 440 445

Pro Asp Ser Pro Val Ala Gln Leu His Ala Ser Leu Leu Gly Leu Ser
450 455 460

Gln Leu Leu Gln Pro Glu Gly His His Trp Glu Thr Gln Gln Ile Pro
465 470 475 480

Ser Leu Ser Pro Ser Gln Pro Trp Gln Arg Leu Leu Leu Arg Phe Lys
485 490 495

Ile Leu Arg Ser Leu Gln Ala Phe Val Ala Val Ala Ala Arg Val Phe
500 505 510

Ala His Gly Ala Ala Thr Leu Ser Pro
515 520